

May 29, 1928.

1,671,675

C. S. HANSEN

SNUBBER

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Fig. 1.

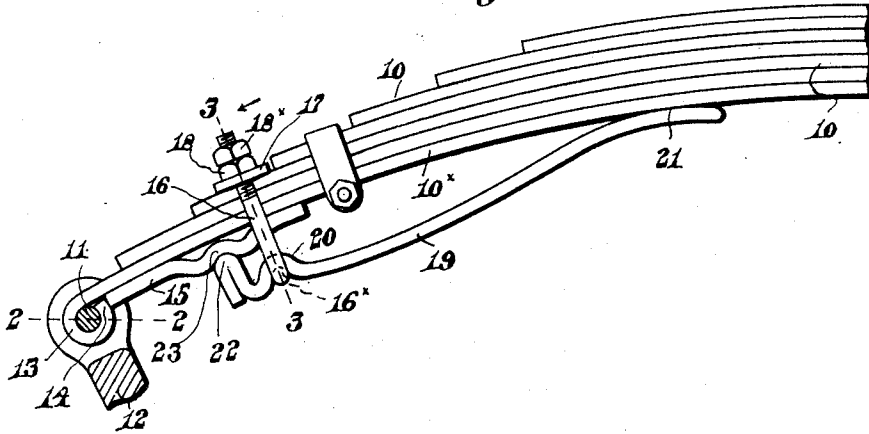


Fig. 2.

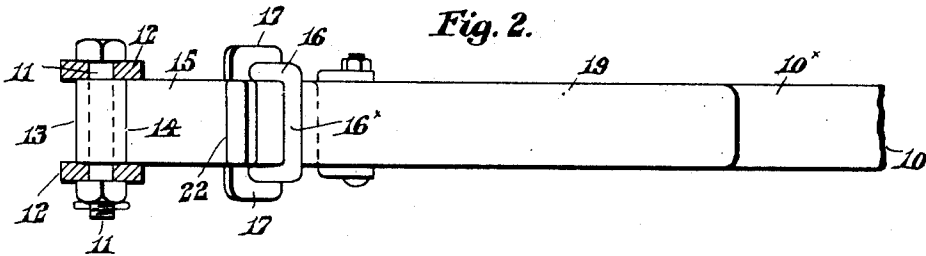
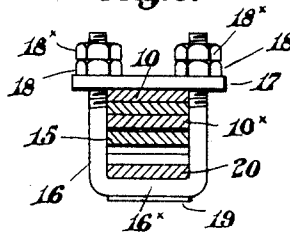


Fig. 3.



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UNITED STATES PATENT OFFICE.

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SNUBBER.

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This invention relates to snubbers for motor vehicles and has for its object the production of a simple but effective device of this character which may be quickly applied to the spring of the vehicle without any connection with the body of the car.

This result is obtained by the mechanism illustrated in the accompanying drawing.

For the purpose of illustrating the invention, one preferred form thereof is illustrated in the drawings, this form having been found to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which the invention consists can be variously arranged and organized, and the invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described except as required by the scope of the appended claims.

Of the drawings:

Figure 1 represents an elevation of one end of a vehicle spring with an attachment secured thereto embodying the principle of the present invention.

Figure 2 represents a horizontal section of same on line 2, 2, on Fig. 1 looking upwardly, and

Figure 3 represents a vertical section on line 3, 3, on Fig. 1.

Similar characters indicate like parts throughout the several figures of the drawing.

In the drawings 10 is a portion of a vehicle spring of usual construction composed of a plurality of leaves as shown, some of these leaves being longer than others with each end of the lower leaf 10* looped about a pin 11 in a bifurcated support 12 secured to the chassis of the vehicle in any well known manner.

While only one end of the spring 10 is shown in the drawing, it must be understood that the other end is the exact duplicate of the portion illustrated.

The loop 13 of the inner leaf 10* around the pin 11 forms a shoulder 14 against which bears one end of a plate 15 the center portion of which is free from contact with said lower leaf 10* of the spring 10, while the opposite ends thereof contact therewith.

Straddling the spring 10 is a stirrup 16 the upper ends of which extend through a member 17 and have threaded thereto adjusting nuts 18 and lock nuts 18*.

Extending through this stirrup 16 is a bar

19 having a curved portion 20 to form a seat for the lower cross member 16* of the stirrup 16.

The seating of this cross member 16* in the curved portion 20 prevents end movement of the bar 19 and forms a fulcrum about which said bar is adapted to move.

This bar 19 is made of resilient metal and one end thereof extends for some distance toward the center of the vehicle spring 10 and contacts near its extremity with the under face of the leaf 10*, being curved slightly at this point as indicated at 21 so that the contacting end may have slight movement endwise of said leaf 10*.

The opposite end of the bar 19 has an upwardly extending support 22 which extends into the concaved recess 23 in the under face of the plate 15.

This plate 15 is made of spring metal and the center portion thereof may move slightly toward and from the leaf 10*.

Any desired tension between the bar 19 at 21 and the leaf 10* may be obtained by adjusting the nuts 18, 18*, this tension varying according to the roughness of the roads over which it is intended to drive the vehicle.

When making this adjustment the bar 19 will move about a fulcrum made by the upper end of the support 22 seated in the concave recess 23.

The center of the spring 10 may be secured to the body of the vehicle in any well known manner.

Under ordinary conditions the spring 10 will operate without affecting the snubber mechanism, but when the vehicle moves over an unusually rough road, the inner end of the bar 19 will be pressed downwardly about its fulcrum 16* and the support 22 will be moved upwardly strengthening the outer end of the spring where said spring is the weakest.

Moreover this stiffening of the spring 10 prevents any excessive movement thereof and avoids all excessive jouncing of the vehicle body.

The seating of the support 22 in the concaved recess 23 retains the end of plate 15 always in contact with the shoulder 14 and prevents any end movement of said plate.

As the opposite end of the plate 15 is positioned between the side members of the stirrup 16, said plate cannot move sidewise.

The side members of the stirrup 16 and

the seating of the support 22 in the transverse concaved recess 23 of plate 15 prevents any side movement of the bar 19.

This makes a very cheap construction of a snubber which may be applied quickly to any form of vehicle spring without necessitating the use of expensive labor.

Most snubbers now on the market, have one end secured to the spring and the other end secured to the body of the vehicle, and consequently an uneven snubbing action is imparted to the body of the vehicle.

In this device, the whole snubber is secured to the spring and any snubbing action is taken up in the spring itself before it can be imparted to the body of the vehicle.

The tension of the spring 10 is made variable by the application of this snubber mechanism.

The snubber mechanism furthermore acts as a check on the spring on its rebound as the pressure of the plate 15 on the leaf 10 tends to keep the spring straight, but as this pressure gradually diminishes, the spring 10 will return to its normal position with gradually increasing speed.

It is believed that the operation and many advantages of the invention will be understood readily without further description.

Having thus described my invention, I claim:

1. The combination with a leaf vehicle spring having a shoulder at the end thereof, a stirrup depending from said spring; a resilient bar supported thereby having on one side of said stirrup a long arm bearing against the under face of said spring and an upwardly extending support on the other side of said stirrup; and a plate on said support contacting at its ends only with the under face of said spring.

2. The combination with a leaf vehicle spring having a shoulder at the end thereof, a stirrup depending from said spring; a resilient bar supported thereby having on one side of said stirrup a long arm bearing against the under face of said spring and an upwardly extending support on the other side of said stirrup; and a plate on said support contacting with the under face of said spring, the outer end of said plate bearing against the shoulder of said spring.

3. The combination with a leaf vehicle spring having a shoulder at the end thereof, a stirrup depending from said spring; a resilient bar supported thereby having on one side of said stirrup a long arm bearing against the under face of said spring and an upwardly extending support on the other side of said stirrup; and a plate on said support contacting at its ends only with the under face of said spring, the inner end of said plate extending through said stirrup.

4. The combination with a leaf vehicle

spring having a shoulder at the end thereof, a stirrup depending from said spring; a resilient bar supported thereby having on one side of said stirrup a long arm bearing against the under face of said spring and an upwardly extending support on the other side of said stirrup; and a curved plate on said support contacting with the under face of said spring, and having a concaved seat to receive the upper end of said support.

5. The combination with a leaf vehicle spring having a shoulder at the end thereof; a member extending transversely of said spring; a stirrup having its side members extending through said members; nuts threaded to the ends of said side members; a resilient bar fulcrumed on said stirrup with a long arm extending toward the middle of the spring and contacting at its end with the under face thereof, said bar at its outer end having an upwardly extending support; and a yielding plate fulcrumed on said support free from contact with said spring except at its ends and of which the outer end bears against said shoulder.

6. The combination with a vehicle spring, of a snubber mechanism consisting of a curved plate contacting with the under face of the spring only at its ends and fulcrumed at an intermediate point upon a support extending upwardly from a resilient bar the opposite end of which bears against said spring, said bar being fulcrumed adjacent its plate supporting end upon an element depending from said spring.

7. The combination with a vehicle spring, of a snubber mechanism consisting of a plate contacting with the under face of the spring and fulcrumed at an intermediate point upon a support extending upwardly from a resilient bar the opposite end of which bears against said spring, said bar being fulcrumed adjacent its plate supporting end upon an element depending from said spring.

8. The combination with a leaf vehicle spring, a stirrup depending from said spring; a resilient bar supported thereby having on one side of said stirrup a long arm bearing against the under face of said spring and an upwardly extending support on the other side of said stirrup; a plate on said support contacting with the under face of said spring; and means for adjusting said stirrup to vary the tension of said bar.

9. The combination with a leaf vehicle spring, a stirrup depending from said spring; a resilient bar supported thereby having a long arm bearing against the under face of said spring and a short arm provided with an upwardly extending support; and a plate on said support contacting with the under face of said spring, and having a concaved recess to receive said support.

10. The combination with a leaf vehicle

spring, an element depending from said
spring; a resilient bar fulcrumed at an in-
termediate point on said element and hav-
ing on one side of its fulcrum a long arm
5 bearing against the under face of said
spring and on the opposite side of said ful-
crum a short arm provided with an up-

wardly extending support; and a plate ful-
crumed on said support and contacting with
the under face of said spring.

Signed by me at 746 Old South Bldg.,
Boston, Mass., this 21st day of July, 1927.

CHRISTIAN S. HANSEN.